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(72) Inventor KENNETH WILSON MILLS



(54) IMPROVEMENTS IN OR RELATING TO DISPOSABLE BEDPANS

(71) We, VERNON & COMPANY (PULP PRODUCTS) LIMITED, British Company, of Slater Street, Bolton, Lancashire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with disposable bedpans of the kind composed of fibrous, e.g. cellulose pulp or paper stock, and which, after use and together with their contents are disposed of in a convenient and hygienic manner, usually but not essentially via a waste disposal apparatus wherein they are comminuted or pulverised being mixed with water to an easy flowing consistency and consigned to a normal soil drain system which conveys the liquid slurry to a sewage treatment plant. Bedpans of the kind referred to comprise a seat portion formed with a downturned peripheral lip, a receptacle portion formed within the seat portion and having downwardly convergent side walls, said receptacle portion being elongated from front to rear and being bilobate in plan view with the rear part being of greater radius.

Such bedpans as are at present widely used in hospitals throughout the United Kingdom and elsewhere overseas, are light in weight and have a thin wall section which renders them unsuitable as load-bearing units in themselves. Usually therefore a disposable bedpan is located in use within a complementary non-expandable support or carrier which may be composed of a sufficiently rigid synthetic resin capable of withstanding constant cleaning and sterilization at temperatures of the order of 130° centigrade. It will of course be appreciated that hospital staffs vary the method and the frequency of cleaning such re-usable supports in relating to the illness of the patient being nursed. For example it may be considered necessary to wash and fully sterilize the support after each use by a patient suffering from a highly infectious or contagious disease, whereas simple washing or swabb-

ing with a bactericide may be considered entirely adequate in respect of other patients.

Attempts have heretofore been made to provide a self-supporting, fully disposable, bedpan but the difficulty of rapid disposal, even with powerful disposal apparatus, and the nature of the fibrous pulp material used, precluded from a practical point of view its structural strength being raised to a point which obviated its tendency to collapse when used by a heavy patient, or when splints or other appliances impose high loads on local sections, or when the mattress or other supporting surface was not flat. The simple and seemingly obvious expedient of rendering a disposable bedpan sufficiently strong by increasing the wall thickness is not a practical manufacturing proposition, mainly because enclosed sections of the mould forms gather during the moulding process a disproportionately large mass of fibrous moulding material. Thus the actual strength of the load bearing parts of the article is not proportional to the increase in overall weight of the moulding material used. Even if it were possible to mould a bedpan of a strength sufficient to support a person of maximum weight, then the required mass of moulding material would be greater than is acceptable by conventional disposal means. Further, the necessary wall thickness would inhibit nesting with a consequent increase in the cost of manufacture, storage and transport.

The present invention has for one of its objects to provide in combination a disposable bedpan of the kind referred to, and a disposable bedpan support therefore which is usable as an alternative to the non-expandable support or carrier composed of rigid synthetic resin or other suitable material to which reference has already been made. Said disposable support is designed to have a weight and bulk which enables both the bedpan and the support either as an assembly or separately, to be readily disposed of by means of conventional methods and apparatus.

A further object is to provide a dispos-

able bedpan and disposable support assembly, the combined unit being designed to provide an adequate load-bearing capacity in those local areas where extra strength is required thus leaving without extra weight, bulk, wall thickness or additional sections, that portion of the bedpan where load-bearing is of lesser importance. By this means the amount of material to be macerated and conveyed via the soil drains to the sewage treatment plant is maintained at a minimum. Such an assembly is a valuable facility which could be used for example when it was judged that the cost of thoroughly sterilizing a non-expendable support after each use by patients afflicted by highly infectious or contagious illnesses was greater than the extra cost of the disposable bedpan-cum-support or when, in the judgement of the nursing authority concerned, it was simply desirable to use such a fully disposable utensil.

The invention also aims to provide a disposable bedpan-cum-support assembly the bedpan unit whereof may if desired be detached and used with a non-expendable support such as already referred to. This combination of disposable bedpan and non-expendable support is intended for use when nursing heavy patients, when splints or appliances impose high loads on local sections, when any problem of disposal makes it imperative to minimise the amount of fibrous material passed into the soil drains, or when, in the judgement of the nursing authority concerned, it is simply desirable to use the combination of disposable bedpan and non-expendable support.

Accordingly, the invention provides in combination an assembly comprising a bedpan of disposable fibrous pulp material having a seat portion with a downturned peripheral lip, a receptacle portion provided within the seat portion, said receptacle portion being elongated from front to rear and being generally bilobate in plan view, and a support of disposable fibrous pulp material fitted about the rear (in use) part of said bedpan below the seat portion thereof.

In a preferred form the disposable bedpan of the assembly has a downturned peripheral lip at the front and a downwardly and outwardly extending skirt about the rear (in use) part, said skirt extending to the level of the base of the bedpan at each side and tapering upwardly towards the front. Such a bedpan may be used per se as a free standing, self-supporting unit where patient weight and other considerations permit. Usually, the disposable support as above defined is used to supplement the load-bearing properties of the bedpan. The bedpan may of course be used in conjunction with a rigid non-expendable support or carrier if necessary or desirable.

This free standing self-supporting improved bedpan has advantages in that it has a substantial portion of the outwardly and downwardly inclined external skirt somewhat above the level of the base of the bedpan. This has the effect of exposing the radiussed exterior face of the receptacle compartment of the bedpan, which facilitates sliding action of the utensil when it is being placed beneath a patient as compared with the outwardly angled forward projecting skirts of conventional designs which tend to dig into a bed's draw sheet and produce fractures in the fibrous material. The present bedpan, because of said tapering cut-away skirt is also much easier to manipulate and obviates the danger of trapping the fingers, or damaging the material of the utensil, when a patient's weight is unexpectedly or inadvertently applied before the hand is drawn clear.

In a preferred form the disposable support of the assembly comprises a planar base generally circular in shape with a front chordal edge, a divergent wall extending upwardly from the curved periphery of the level and connected to a downwardly divergent skirt of an upper generally horizontal web, and said wall and skirt being connected at the front by wall sections. Said support is arranged so as to fit snugly about the rear (in use) part of the generally bilobate receptacle portion of the bedpan with said front wall sections being located adjacent to the waisted sides of said receptacle portion.

The invention is further described with the aid of the accompanying drawings which illustrate by way of example only and not of limitation several embodiments. In said drawings:—

Figure 1 is a front perspective view from above, and

Figure 2 is a front perspective view from below, of one form of a disposable bedpan support for an assembly according to the invention.

Figure 3 is a sectional side elevation of an assembly of the support means of Figures 1 and 2 with a known type of disposable bedpan.

Figure 4 is a plan view of an assembly according to the invention incorporating an improved disposable bedpan with an integral support means, and

Figure 5 is a side elevation thereof.

Figure 6 is a part sectional perspective view of an alternative form of disposable bedpan and support assembly according to the invention.

Referring to said drawings, the letter B in Figure 3 denotes a disposable bedpan of a kind which is in general use and conventionally is employed with a non-disposable rigid plastics or other support or car-

rier. Such a bedpan comprises a seat portion 10 formed with a downturned peripheral lip 11 which is designed so as to be a free fit over and shroud the upper edge of a conventional rigid non-disposable support or carrier. Formed within the seat 10 there is a receptacle portion 12 having convergent side walls 13, said receptacle portion being elongated in a direction from front to rear and formed with a medial waist so that in plan said receptacle portion is generally of bilobate or keyhole shape with the rear part being of greater radius than the fore part. The front of said bedpan B is somewhat higher than the rear part. The rear and side parts of the seat portion 10 may in some cases be formed with concavities or depressions arranged so as to render it more comfortable in use.

A disposable support S (Figures 1 and 2) for the bedpan B is a one piece unit moulded or pressed to shape from fibrous pulp, e.g. a cellulose pulp, and consists of a planar base 20 which is generally circular in shape but at its front is terminated by a straight chordal edge 21. Extending upwardly from the curved periphery of said base 20 is a divergent wall 22 which is joined to a divergent skirt portion 23 by an upper generally horizontal web 24. At the front of said support said wall 22 and skirt portion 23 are connected by conic wall sections 25.

To increase the rigidity and therefore the load bearing character of the support, said wall 22 and skirt 23 may be formed with vertically extending flutes 26, 27. Said flutes 26, 27 may extend across the upper connecting web 24.

To prevent spreading of the divergent skirt portion 23 under load, the outer periphery thereof, preferably is formed with a continuous horizontal flange 28 co-planar with the base 20. As will be clear from Figure 3, the bedpan support S is configured so as to be a snug fit about the rear part of the said bedpan with the frontal conic portions 25 of the support being located adjacent to the waisted sides of the receptacle part 12 of the bedpan, and the upper web 24 seated below the seat portion 10. The bedpan B is thus provided with a strong and stable support means about its rear part which in use takes up most of the weight of a person using same, and at the same time provides a lateral stability for the assembly by virtue of its outwardly extending skirt 23.

Preferably, although not essentially, the bottom 14 of the receptacle portion 12 of the bedpan is formed with a joggle 15 in order that the base 20 of the support S will lie flush with the front part of said bottom 14.

Referring to Figures 4 and 5 these illus-

trate an improved disposable fibrous pulp bedpan B¹ wherein the downturned peripheral edge, which in conventional bedpans comprises only a short lip (see Figure 3), is extended to form a downwardly and outwardly extending skirt 30 around the rear part of the unit. At each side said skirt 30 tapers towards the front as indicated at 31. The receptacle part 32 of the bedpan comprises downwardly convergent side walls 33 and a seat portion or web 34. In plan view said receptacle part is generally bilobate and the forepart has a radiussed (in side elevation) from face 35 as shown best in Figure 5.

The integral load bearing skirt 30 may have its operative stiffness increased by flutes or corrugations and a peripheral flange in the manner of the disposable support S of Figures 1—3. The disposable bedpan of Figures 4 and 5 has been shown experimentally to be capable of being self-supporting under the weight of children and other relatively lightweight patients. To increase its load bearing capabilities as desired said bedpan B¹ may be used either in conjunction with a disposable support S, or with a rigid non-expendable support of conventional or other type.

Referring now to Figure 6, this illustrates an alternative form of support S¹ combined with an improved disposable bedpan B¹¹.

Said bedpan B¹¹ has basically the same characteristic shape as the bedpan B¹ illustrated in Figures 4 and 5 in that it comprises a receptacle portion, 32¹ with downwardly converging walls 33¹, a seat portion or web 34¹, and is similarly shaped in plan. However, to improve its resistance to lateral deformation under load, the downwardly and outwardly extending skirt 30¹ is formed with a peripheral flange 36.

The disposable support S¹ is a moulded one piece unit of fibrous pulp comprising a flat base 20¹, generally circular in plan view but the front whereof terminates at a straight edge 21¹. Extending upwardly from the curved periphery of the base 20¹ is an outwardly sloping wall 22¹ which is connected with a downwardly and outwardly sloping skirt 23¹ by a flat web 24¹. At the front said wall 22¹ and skirt 23¹ are connected by relatively flat wall portions 26¹. To prevent spreading of the skirt 23¹ under load, the outer periphery thereof is formed with a horizontal flange 28¹ which is co-planar with the base 20¹.

The support S¹ is configured and dimensioned so as to be a snug fit about the rear part of the bedpan B¹¹ with the web 24¹ seated below the seat portion 34¹ of the bedpan.

It will be seen that a bedpan-cum-support may be supplied as an assembly, ready for use, but may be separated in order that the

disposable bedpan can be used with a non-disposable support if circumstances are such that this is desirable.

5 WHAT WE CLAIM IS:—

1. In combination an assembly comprising a bedpan of a disposable fibrous pulp material having a seat portion provided with downturned peripheral lip, a receptacle portion provided within the seat portion, said
10 receptacle portion being elongated from front to rear and being generally bilobate in plan view, and a support of disposable fibrous pulp material fitted about the rear
15 (in use) part of said bedpan below the seat portion thereof.

2. In combination, an assembly, as claimed in claim 1, wherein said seat portion of the bedpan has a downturned peripheral lip at the front and a downwardly
20 and outwardly extending skirt about the rear (in use) part, said skirt extending to the level of the base of the bedpan at each side and tapering upwardly towards the front.

3. In combination, an assembly as claimed in claim 1 or claim 2, wherein said support comprises a planar base generally circular in shape with a front chordal edge,
30 a divergent wall extending upwardly from the curved periphery of said base and connected to a downwardly divergent skirt by an upper generally horizontal web, said wall and skirt being connected at the front by
35 wall sections, and said support fitting snugly about the rear (in use) part of the gener-

ally bilobate receptacle portion of the bedpan with said front wall sections being located adjacent to the waisted sides of said receptacle portion. 40

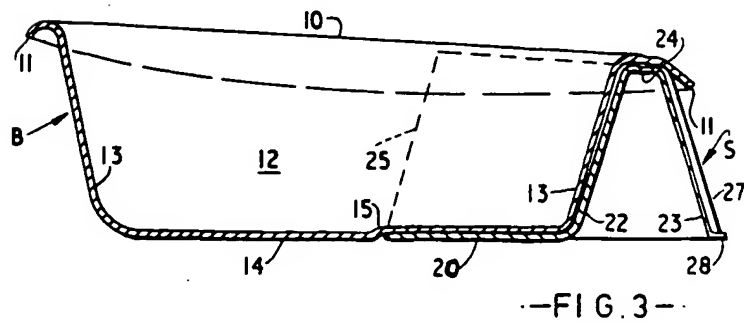
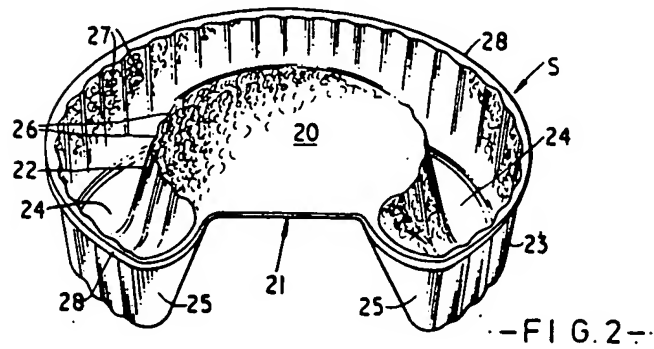
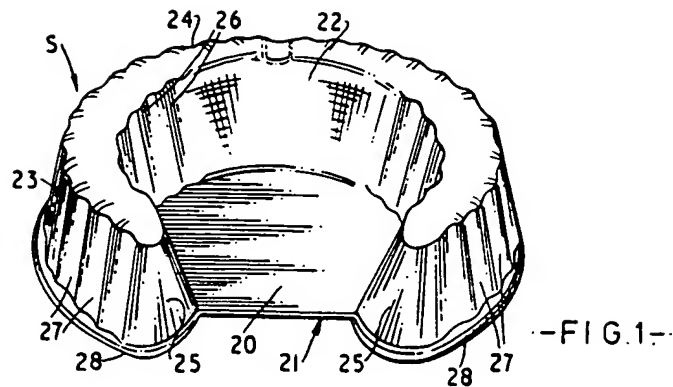
4. In combination, an assembly as claimed in claim 3, wherein the downwardly and outwardly extending skirt of said support is formed with a horizontal flange coplanar with said generally circular planar
45 base.

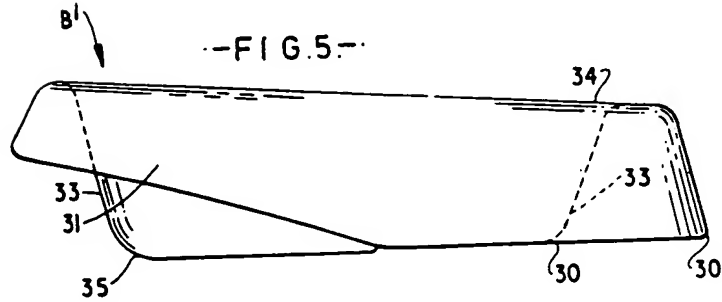
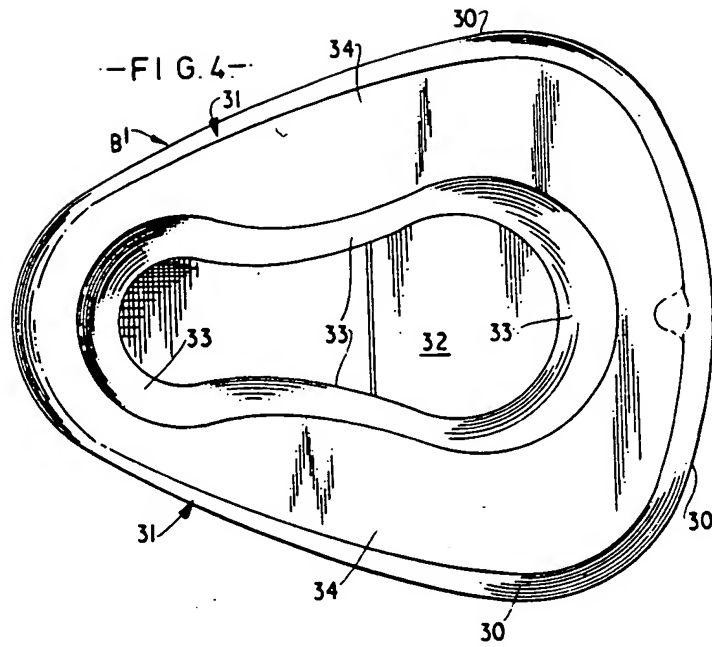
5. In combination, an assembly as claimed in claim 3 or claim 4, wherein the bottom of the receptacle portion of said bedpan is provided with a joggle whereby
50 the base of said support is coplanar with that part of said bedpan base not overlying said base of said support.

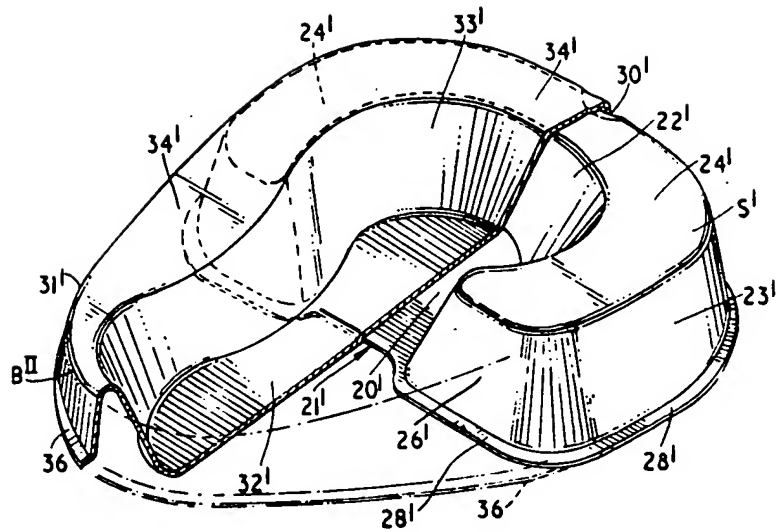
6. In combination, an assembly as claimed in any one of the preceding claims
55 3—5, wherein said divergent wall and downwardly extending skirt of said support are provided with vertically extending flutes to increase the rigidity and load bearing character of said wall and skirt. 60

7. A disposable bedpan-cum-support assembly, substantially as herein described with reference to and as illustrated in the accompanying drawings.

J. HINDLEY WALKER & CO.,
125, High Holborn,
London, W.C.1,
and
139, Dale Street,
Liverpool, L2 2JH.
Chartered Patent Agents.







—FIG. 6.—

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